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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/815,089

03/31/2004

Marck Matusz

TH-1657 (US)

7339

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EXAMINER

MATTHEWS, ABRAHAM M

ART UNIT

PAPER NUMBER

1755

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/06/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/815,089

Applicant(s)

MATUSZ ET AL.

Examiner

Abraham M. Matthews

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) 1-15, and 24-45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-23, and 46-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

The text of those sections of Title 35, U.S. code not included in this action can be found in a prior Office Action

(1)

Claims 16-23 and 46-49 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,504,053 to Chou et al.

Regarding Applicants' claims 16,17 and 18, Chou et al. disclose a process for preparing a catalyst composition comprising, selecting a support having a surface area of $0.03 \text{ m}^2/\text{g}$ ($30 \text{ m}^2/\text{kg}$) to about $10 \text{ m}^2/\text{g}$ ($10 \times 10^3 \text{ m}^2/\text{kg}$), and depositing on the support: silver metal, a metal or component comprising rhenium, tungsten, molybdenum, or a nitrate- or nitrite-forming compound, and a component containing a Group 1A metal having an atomic number of at least 5 to 83, and in addition potassium. (Chou et al., column 14, lines 8-14, column 8, lines 24-27, column 5, column 9, lines 1-44, and column 5, lines 23-34).

The " $Q_K/R + Q_{HIA}$ " limitations of claims 16-18 can be found in Chou et al. at column 15, line 63 to column 16, line 12.

Regarding Applicants' claim 19,46,and 47, Chou et al., disclose a process for preparing a catalyst composition. Chou et al., further disclose that in said process for preparing a catalyst composition, preferably, cesium comprises at least about 10, more preferably, about 20-100 percent by weight of the total added alkali metal and alkaline earth metal (i.e., Group 1A metals having an atomic number of at least 37, in this instant case) in the finished catalyst. (Chou et al., column 16, lines 12-15).

Regarding Applicants' claims 20-22,and 48, Chou et al further disclose said process wherein, the surface area of the support is preferably from about $0.05 \text{ m}^2/\text{g}$ ($50 \text{ m}^2/\text{kg}$) to about $5 \text{ m}^2/\text{g}$ ($5000 \text{ m}^2/\text{kg}$). (Chou et al., column 14, line 11). Chou et al. also disclose that the requisite range of quantities of the cation promoter (alkali metal, i.e, potassium, in this instant case) present in the catalyst composition generally lies

Art Unit: 1755

between about 10 ppm (0.26 mmoles/kg) and about 4000 ppm (102.56 mmoles/kg), preferably about 15 ppm (0.38 mmoles/kg) and about 3000 ppm (76.92 mmoles/kg), and more preferably between about 20 ppm (0.51 mmoles/kg) and about 2500 ppm (64.1 mmoles/kg) by total weight of the catalyst composition. (Chou et al., column 16, lines 1-4). Chou et al. also teach that the ratio of cesium salt (Higher Group 1A component, in this instant case) to the other salt(s) may vary preferably from about 0.001:1 to 1000:1 (Chou et al., column 16, lines 10-12).

Therefore, the following various ranges in the value of the expression $(Q_k/R) + Q_{HIA}$, as set forth in Applicants' claims 20-22, and 48 : (1) 0.5 to 50 mmoles/kg with surface area of support in the range of 500 to 5000 m²/kg (claim 20), (2) 1 to 40 mmoles/kg with surface area of support in the range of 500 to 5000 m²/kg (claim 21), (3) 1.5 to 12 mmoles/kg with surface area of support in the range of 500 to 1500 m²/kg ; or 4 to 15 mmoles/kg with surface area of support in the range of 1500 to 2500 m²/kg; or 5 to 25 mmoles/kg with surface area of support in the range of 2500 to 5000 m²/kg (claim 22), and (4) 2 to 6 mmoles/kg with surface of support of 500 to 1500 m²/kg ; or 6 to 10 mmoles/kg with surface area of support of 1500 to 2500 m²/kg; or 10 to 20 mmoles/kg with surface area of support of 2500 to 5000 m²/kg, - all fall within the limitations taught by the disclosure of Chou et al as set forth above.

Regarding Applicants' claim 23, Chou et al., as set forth above, under rejection of claim 16, disclose a process for preparing a catalyst composition. Chou et al. also disclose that said process further comprises depositing on the support anion promoters or modifiers selected from the group consisting of one or more of sulfate, phosphate, and borate, among others (Chou et al., column 16, lines 32-39).

Regarding Applicants' claim 49, Chou et al. disclose that the catalyst composition may contain lithium, selected among other alkali metal and/or alkaline earth metals (i.e Group 1A metals or components comprising a Group 1A metal). (Chou et al., column 15, lines 30-34). Chou et al. also further disclose that the concentration of the alkali metal salt (such as lithium salt) and the alkaline earth metal in the final catalyst composition may vary from about 0.0005 to 1.0 weight percent (or about 0.7 mmoles/kg

Art. Unit: 1755

to 1.43 moles per kg, respectively) relative to the total catalyst composition. (Chou et al., column 15, lines 56-58, and lines 63-65).

(2)

Response to Arguments

Applicants' arguments filed January 16, 2007 have been fully considered but they are not persuasive.

Applicants argue that in the cited disclosure of Chou et al. (U.S. Patent No. 5,504,053), the preferred amount of cation promoter (i.e., alkali metal and/or alkaline earth metals, optionally Group 3b metal ions) deposited or present on the carrier is disclosed as in the range between about 10 and about 4000 ppm by weight, and that the ratio of cesium salt to any other alkali metal and alkaline earth metal salt(s), if used, is not narrowly critical and may vary over a wide range, for example, cesium comprises at least about 10, more preferably, about 20 to 100 % wt. of the total added alkali metal and alkaline earth metals. Moreover, Applicants argue that none of the working examples in the cited reference appear to utilize a catalyst composition containing potassium and a Group IA metal having an atomic number of at least 37.

The above argument is not deemed persuasive because: (a) the limitations of Applicants' expression $(Q_k/R) + Q_{HIA}$ in the range of from 1.5 to 30 mmoles/kg, where the ratio of Q_{HIA} to Q_k is at least 1:1, fall within said range of the preferred amount of cation promoter disclosed by the reference, namely, between about 10 and about 4000 ppm, as cited in Applicants' remarks/arguments. Moreover, the preferable percent by weight limitations disclosed by Chou et al. regarding cesium salt to any other alkali metal and alkaline earth metals also teach the limitations of Applicants' recitation of claim 16 for the quantity in mmoles/Kg (or percent by weight) of the Group IA metal (i.e.,

Art Unit: 1755

Q_{HIA}) having an atomic number of at least 37, wherein said Q_{HIA} is at least 0.01mmoles/Kg.

Applicants' argument regarding lack of working examples in the cited reference utilizing a catalyst composition containing potassium and a Group IA metal having an atomic number of at least 37, is also deemed not persuasive because Chou et al. disclose in their working example that: "The carrier, as indicated, is impregnated under vacuum as hereinafter described with a solution of silver complex and alkali metal and alkaline earth metal salts." (Chou et al., EXAMPLES, column 23, lines 48-50; See also detail working example: column 23, line 50 to column 24, line 67). The examples are given by way of illustration only and are not to be construed as limiting the scope of the disclosure.

Applicants further argue that the amounts disclosed in said reference for said cation promoters include more than just alkali metal amounts, and that there is no direct and unambiguous disclosure in Chou et al. of depositing a Group IA metal having an atomic number of at least 37 and potassium in an amount satisfying the expression $(Q_K/R) + Q_{HIA}$ in the range of from 1.5 to 30 mmole/Kg and where the ratio of Q_{HIA} to Q_K is at least 1:1, and therefore Chou et al. do not disclose each and every limitation of claim 16. This argument also is not deemed persuasive because, as pointed out above, Chou et al. clearly and unambiguously disclose in their preferred embodiment that: "the catalyst comprises alkali metal nitrate, especially potassium, and/or rubidium nitrate (i.e., Group IA metal with atomic number greater than 37), especially in amounts greater than about 400 or 500 ppm by weight based on the weight of potassium." (Chou et al., column 9, lines 34-38). Chou et al. also clearly teach that the inclusion of amounts of any cation promoters other than alkali metals is optional (Chou et al., column 9, lines 4-7).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abraham M. Matthews whose telephone number is (571) 272-2495. The examiner can normally be reached on M-F 8:00 -4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMM


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PRIMARY EXAMINER